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U. S. DEPARTMENT OF AGRICULTURE.
OFFICE OF EXPERIMENT STATIONS.

W. O. ATWATER, DIRECTOR.

EXPERIMENT STATION BULLETIN No. 4.

LIST OF HORTICULTURISTS
OF THE
AGRICULTURAL EXPERIMENT STATIONS
IN THE
UNITED STATES,
WITH
AN OUTLINE OF THE WORK IN HORTICULTURE AT THE
SEVERAL STATIONS.

PREPARED BY

W. B. ALWOOD,

*Chairman of the Committee on Co-operative Work in Horticulture of the Association
of American Agricultural Colleges and Experiment Stations.*

PUBLISHED BY AUTHORITY OF THE SECRETARY OF AGRICULTURE.

NOVEMBER, 1889.

WASHINGTON:
GOVERNMENT PRINTING OFFICE.
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LETTER OF TRANSMITTAL.

U. S. DEPARTMENT OF AGRICULTURE,
OFFICE OF EXPERIMENT STATIONS,
Washington, D. C., November 1, 1889.

SIR: I have the honor to transmit herewith for publication, Experiment Station Bulletin No. 4 of this office, containing a list of the officers in charge of horticultural work at the Agricultural Experiment Stations in the United States, together with an outline of this work at the several stations. This bulletin was prepared by Mr. W. B. Alwood, vice-director of the Virginia Agricultural Experiment Station and chairman of the committee on co-operative work in horticulture of the Association of American Agricultural Colleges and Experiment Stations, and is especially intended for distribution among station horticulturists, nurserymen, seedsmen, and originators of new varieties of fruits and vegetables.

Respectfully,

W. O. ATWATER,
Director.

Hon. J. M. RUSK,
Secretary of Agriculture.

INTRODUCTION.

This publication has two main objects: (1) to facilitate correspondence and co-operation among the special workers in horticulture; (2) to bring to the attention of originators of new varieties of fruits and vegetables, and others interested in horticulture, the main lines of work which will be undertaken or which are actually in progress at the several stations. By accomplishing this latter object, it is hoped to secure the co-operation of a most worthy class of specialists. The committee regret that time did not permit them to make this record more complete, but it was deemed to be sufficiently useful in its present form to warrant immediate publication. The hope and expectation are that additions and revisions will be published from time to time.

It is proper to state here that it was the unanimous expression of the horticulturists at the Columbus meeting, that their work would be very materially assisted by the compilation and publication of special bulletins through the Office of Experiment Stations, when the work shall have sufficiently advanced to furnish the necessary material.

As is indicated in the body of this bulletin, variety testing will not be the all-important work of the horticulturists of the several stations, but it will always occupy a prominent place, and must, from its practical importance, receive constant and careful attention.

The aim of the horticulturists in entering into an organized effort in this work is to secure more full and reliable data on which to base opinions, and to mutually assist each other and properly bring before the public all worthy new varieties. Originators and others having new varieties of whatever kind which fall within our lines of work will find it to their interest to put themselves into communication with the stations, and, so far as possible, aid in accomplishing the objects above mentioned.

W. B. ALWOOD,
W. J. GREEN,
M. H. BECKWITH,
Committee.

CONDITIONS UNDER WHICH TESTS OF VARIETIES WILL BE MADE AT THE STATIONS.

The stations desire all promising new varieties, especially before they are put upon the market, in order that an intelligent opinion concerning such varieties may be given at an early date.

After much correspondence and consultation with the leading workers in this branch of station work, it has been agreed that the testing of varieties shall be conducted under the following conditions and agreements:

(1) The stations do not solicit new varieties from originators and others, but will undertake to test them when sent.

(2) No gift or donation of varieties which implies directly or indirectly any obligation of special treatment will be accepted by the stations, nor will any test of varieties be made, unless it is probable that the results will be of public interest.

(3) The stations can not undertake to *buy* seedlings or new varieties which are not already upon the market.

(4) Only such varieties are desired as are supposed to have merit and are offered in good faith. Long lists of seedlings can not be tested for the purpose of sifting out undesirable sorts.

(5) As full a statement as it is possible to make concerning history, etc., should accompany each variety sent for trial.

This statement should include at least the following data: (a) Date and place of origin; (b) parentage, if known; (c) if a cross, state whether produced by artificial means; (d) if produced by selection, state variety from which selection began and the time which it has been under special care.

(6) All varieties, whether named or not, should be sent under number, and under the same number to all stations. If named, the name as well as the number should be given.

(7) Bulletins and publications of the stations to which varieties are sent for trial will be sent free of cost to all parties furnishing varieties for test. It was unanimously voted at the Columbus meeting of horticulturists that no testimonial of any kind should be given in addition to the full official report, which would aim to cover all points of practical interest.

(8) At the same meeting it was also agreed that the following numbers of plants and sizes of plats should be adopted as the minimum for the first test: Strawberries, two dozen plants; orchard fruits, three trees; vegetables in drills, such as roots, peas, etc., twenty-four plants; potatoes, twenty hills, with not less than two eyes per hill; cucurbits, four hills. In special cases a less number will be taken.

GUARANTEE.

On the part of the stations entering into co-operative work in testing varieties, it is mutually agreed to abide by the following guarantee,

subject to such alterations and modifications as may be agreed upon between the owner of stock and the station officials :

(1) A fair and impartial test will be made, including comparisons with standard varieties.

(2) Full reports will be furnished to the originator when the test is completed, and partial reports on growth, etc., will be made when requested.

(3) Undisseminated varieties will be grown under number only, and due care will be observed to prevent theft, but the station will not be responsible should it occur.

(4) Varieties will not be propagated except for purposes of experimentation, nor disposed of in any manner without consent of owner.

It is the unanimous sentiment of all the stations entering into the aforesaid agreement that each station should be permitted to disseminate new varieties to substations in its own State and to stations in other States for experimental purposes only. It is especially desirable that the stations should have this privilege in case the originator of a new variety has only sufficient stock to supply a very limited number of stations, for a fair test should include trials in as many localities as practicable. This matter is, however, left subject to the wishes of individual originators.

LIST OF OFFICERS HAVING HORTICULTURAL WORK IN CHARGE AT THE
AGRICULTURAL EXPERIMENT STATIONS IN THE UNITED STATES,
WITH AN OUTLINE OF THIS WORK AT THE SEVERAL STATIONS.

ALABAMA.

**Agricultural Experiment Station of the Agricultural and Mechanical College
of Alabama.**

Department of the Agricultural and Mechanical College of Alabama.

Location, Auburn.

Director, J. S. Newman.

All communications relating to horticulture should be addressed to
the Director of the Station.

VEGETABLES.

The Station will experiment with all classes of vegetables, and will
not confine its work to testing varieties.

Varietal improvement by means of selection will be undertaken.

Synonymy will be studied.

New varieties are especially desired.

The Station can distribute nothing at present.

FRUITS.

A large number of varieties of both large and small fruits are being
tested.

Varietal improvement by selection will be undertaken.

Synonymy will be studied.

New varieties are especially desired.

The Station is prepared to distribute grapes and small fruits.

The more important work will be in pomology.

The more temporary work will be with vegetables.

ARKANSAS.

Arkansas Agricultural Experiment Station.*Department of Arkansas Industrial University.*

Location, Fayetteville.

Director, A. E. Menke, D. Sc.

Horticulturist, E. S. Richman, B. S.

VEGETABLES.

Tests will be made with the following classes: Tomatoes, cabbages, cauliflowers, peas, beans, celery, radishes, and potatoes.

Varietal improvement will be undertaken and attention will be given to synonymy.

Specialties most desired are tomatoes, potatoes, cauliflowers, and celery.

The Station is prepared to distribute varieties of peas, beans, and tomatoes.

FRUITS.

Tests will be made with apples, pears, peaches, plums, apricots, nectarines, Japanese persimmons, blackberries, raspberries, currants, gooseberries, and strawberries.

Varietal improvement and work on synonymy will be undertaken.

Specialties desired are peaches and plums and all the small fruits.

For co-operative work, the Station is prepared to distribute plants, cions, buds, or cuttings of the stock on hand.

The more permanent work will be with grapes, foreign plums, persimmons, peaches, nectarines, and apricots.

The more temporary work will be with berry fruits.

CALIFORNIA.

Agricultural Experiment Station of the University of California.*Department of the University of California.*

Location, Berkeley.

Director, E. W. Hilgard, Ph. D., LL. D.

Superintendent of Grounds, E. J. Wickson, A. M.

Tests will be made with varieties of fruits and vegetables from sub-tropical and temperate climates, and the Station desires to have for trial as many different varieties as possible. The aim is to carry on these tests throughout the State, in localities representative of different conditions of climate, character of soil, degrees of moisture or aridity, etc. In the case of fruits this includes also the grafting on different stocks, for it is found that the proper choice of stock is sometimes the ruling factor in determining local successes or failures on the different varieties.

Synonymy will be studied, chiefly with reference to varieties of local origin.

For co-operative work, the Station is prepared to furnish cions of

the best local varieties of fruits, and will also undertake to secure cions or roots of the wild fruits of California as far as possible.

COLORADO.

Agricultural Experiment Station of Colorado.

Department of the State Agricultural College.

Location, Fort Collins.

Director, Charles L. Ingersoll, M. S.

Botanist and Horticulturist, James Cassidy, M. S.

VEGETABLES.

Tests will be made with varieties of all the common kitchen-garden vegetables.

The work will not be confined to testing varieties.

Varietal improvement by selection and cross-fertilization has been undertaken.

Attention will be given to synonymy.

Specialties desired are potatoes, onions, cabbages, and cauliflowers.

The Station is prepared to distribute the seeds of a number of varieties of leading vegetables and seedling potatoes.

FRUITS.

Tests have been undertaken with apples, pears, plums, grapes, strawberries, raspberries, and English gooseberries.

Varietal improvement by selection will be attempted. Seeds of apples and plums from selected fruits grown in this State have been planted.

It is hoped to give attention to synonymy.

Specialties desired are apples, plums, and pears.

The Station is prepared to distribute native fruits and seedling apples.

The more permanent work will be in the introduction of improved varieties of large and small fruits; the production of improved strains of vegetables adapted to this region.

The more temporary work will be in testing varieties of fruits and vegetables.

CONNECTICUT.

The Connecticut Agricultural Experiment Station.

Location, New Haven.

Director, Samuel W. Johnson, M. A.

No horticultural work has yet been undertaken.

Storrs School Agricultural Experiment Station.

Connected with Storrs Agricultural School.

Location, Mansfield (Storrs P. O). Director, W. O. Atwater, Ph. D.

The horticultural work is as yet not definitely planned.

Communications on this subject should be addressed to the vice-director, C. S. Phelps, B. S.

SOUTH DAKOTA.

South Dakota Agricultural Experiment Station.*Department of South Dakota Agricultural College.*

Location, Brookings.

Director, Lewis McLouth, Ph. D.

Horticulturist, Charles A. Keffer.

VEGETABLES.

All vegetables commonly grown will be tested, with a view to determining their relative value and adaptability to the climate of South Dakota.

Varietal improvements will not be undertaken at present.

Synonymy will be studied.

Specialties most desired are tomatoes, cabbages, sweet corn, celery, peas, and beans.

The Station can distribute nothing at present.

FRUITS.

Tests will be made with apples, crab-apples, plums, strawberries, raspberries, dewberries, currants, and gooseberries.

The work for the present will be chiefly confined to varietal tests, which is a matter of great importance to the State.

Synonymy will not be studied at present.

Specialties most desired are plums, seedling apples of northern origin, and the small fruits above named.

The Station is prepared to distribute the native sand cherry.

The more permanent work will be with apples and plums, and, in the future, experiments looking toward developing new varieties.

The more temporary work will be with varieties of small fruits and vegetables.

DELAWARE.

The Delaware College Agricultural Experiment Station.*Department of Delaware College.*

Location, Newark.

Director, Arthur T. Neale, Ph. D.

Horticulturist and Entomologist, M. H. Beckwith.

No report has been received from this Station.

FLORIDA.

Agricultural Experiment Station of Florida.*Department of Florida State Agricultural and Mechanical College.*

Location, Lake City.

Director, Rev. J. P. De Pass.

Botanist and Entomologist, James C. Neal, Ph. C., M. D.

The horticultural work will be divided between the director and Dr. Neal and will consist "(1) of experiments in acclimatization of new fruits, especially those of oriental origin, and (2) experiments in crossing and hybridizing in the *Prunus* family."

GEORGIA.

Georgia Agricultural Experiment Stations.

Department of State College of Agriculture and Mechanic Arts, University of Georgia.

Location, Griffin.

Director, R. J. Redding.

Horticulturist, Gustave Speth.

No report has been received from this Station.

ILLINOIS.

Agricultural Experiment Station of the University of Illinois.

Department of the University of Illinois.

Location, Champaign.

Director, Selim H. Peabody, Ph. D., LL. D.

Horticulturist and Botanist, T. J. Burrill, Ph. D.

VEGETABLES.

A few classes only will be experimented with at the same time; at present the work is on sweet corn and beans.

Work in varietal improvement and in synonymy will be undertaken.

Specialties of vegetables under test are desired; at present sweet corn and beans.

The Station is prepared to distribute a number of varieties of sweet corn and beans.

FRUITS.

Tests will be made with all hardy orchard fruits, blackberries, raspberries, strawberries, and grapes.

Work on varietal improvement and synonymy will be undertaken.

Specialties desired are all varieties of the above-mentioned fruits not already on hand.

The Station is prepared to distribute varieties of the above-mentioned fruits.

The more permanent work will be in the line of vegetable physiology and pathology.

The more temporary work will be on variety tests and methods of treatment.

INDIANA.

Agricultural Experiment Station of Indiana.

Department of Purdue University.

Location, La Fayette.

Director, Horace E. Stockbridge, Ph. D.

Horticulturist, James Troop, M. S.

VEGETABLES.

Tests will be made with potatoes, sweet corn, and sugar beets, but the work will not be entirely confined to testing varieties and strains of these classes.

Varietal improvement will be attempted.

Synonymy will be studied.

Specialties desired are those named above.

The Station is prepared to distribute the classes of vegetables named above.

FRUITS.

Tests of varieties will be made with strawberries, blackberries, and orchard fruits.

Varietal improvement will be attempted.

Synonymy will be studied.

Small fruits are especially desired.

The Station is prepared to distribute small fruits.

The more permanent work will be on improvement by selection, cross-fertilization, etc.

IOWA.

Iowa Agricultural Experiment Station.

Department of Iowa State College of Agriculture and Mechanic Arts.

Location, Ames.

Director, R. P. Speer.

Horticulturist, J. L. Budd, M. H.

VEGETABLES.

Tests will be made with all classes that will grow in the climate of Iowa.

Varietal improvement will be largely undertaken and synonymy will receive attention.

All varieties of value in this climate are desired.

FRUITS.

Tests will especially be made with what are known as "iron-clad" fruits of whatever kind.

Varietal improvement and the study of synonymy will be an important part of the work.

Fruits especially desired are varieties from eastern Europe, north central Asia, and northwestern China.

For co-operative work, the Station is prepared to distribute trees, shrubs and plants.

The more permanent work will be with "iron-clad" orchard and small fruits.

The more temporary work will be with vegetables and flowers.

KANSAS.

Kansas Agricultural Experiment Station.*Department of Kansas State Agricultural College.*

Location, Manhattan.

Director, E. M. Shelton, M. Sc.

Horticulturist and Entomologist, E. A. Popenoe, A. M.

VEGETABLES.

Tests of varieties will be made with reference to their adaptability to the climate and soil of Kansas.

At present the work will, for the most part, be confined to testing varieties.

Varietal improvement will be undertaken as opportunity allows.

"In our tests of varieties we regard as of great importance the detection of identity in sorts sold under different names, and so far shall pay particular attention to synonymy."

Specialties most desired are strains best adapted to a hot, and often dry, climate.

The Station is prepared to distribute the following specialties in small quantities: Two hundred and fifty sorts of potatoes, including some prominent seedlings; a large number of different varieties of tomatoes; and a considerable number of varieties of peas and beans.

FRUITS.

Tests of varieties of all classes will be made, with especial reference to their adaptability to the climate of Kansas.

Varietal improvement will be undertaken to a considerable extent.

Synonymy will be studied as far as possible.

The following specialties are desired: "Blight-proof" pears of good quality; winter apples of best quality, good bearers and hardy in tree; choice hardy peaches; hardy and productive cherries, of better quality than Early Richmond and English Morello; native plums; hardy blackberries and raspberries of superior qualities as to fruit, and capable of resisting drought; grapes as hardy and productive as Concords and of better quality.

The Station is at present not prepared to distribute any fruits.

The more permanent work will be in testing varieties of fruits and vegetables, especially those classes named above as desired by the Station. Questions connected with forestry in Kansas will also be studied.

KENTUCKY.

Kentucky Agricultural Experiment Station.*Department of the Agricultural and Mechanical College of Kentucky.*

Location, Lexington.

Director, M. A. Scovell, M. S.

Horticulturist, James Murray.

No report has been received from this Station.

LOUISIANA.

No. 1.—Sugar Experiment Station, Audubon Park, New Orleans.

No. 2.—State Experiment Station, Baton Rouge.

No. 3.—North Louisiana Experiment Station, Calhoun.

Department of Louisiana State University and Agricultural and Mechanical College.

Director, William C. Stubbs, Ph. D.

No work in horticulture has yet been undertaken.

MAINE.

Maine State College Agricultural Experiment Station.

Department of State College of Agriculture and the Mechanic Arts.

Location, Orono.

Director, Whitman H. Jordan, M. S.

Botanist and Entomologist, F. L. Harvey, M. S.

No report has been received from this Station.

MARYLAND.

Maryland Agricultural Experiment Station.

Department of Maryland Agricultural College.

Location, Agricultural College P. O. Director, Henry E. Alvord, C. E.

Horticulturist, W. H. Bishop, B. S.

VEGETABLES.

Tests will be made especially with tomatoes and sweet corn, and incidentally with other classes and the novelties. The work will include chemical study of the plants and special fertilizer experiments.

Varietal improvement will not be undertaken at present.

Synonymy will be studied.

All varieties of tomatoes and sweet corn are desired.

The Station is not prepared to distribute any vegetables at present.

FRUITS.

Tests will be made with apples, with special reference to long-keeping varieties, peaches and strawberries, and incidentally with other large and small fruits.

Varietal improvement will not be undertaken.

Synonymy will be studied.

Specialties desired are those indicated above.

The most important work at present undertaken is the study of the tomato in the directions indicated above.

The more temporary work will be variety tests in general.

MASSACHUSETTS.

Massachusetts State Agricultural Experiment Station.

Location, Amherst.

Director, Charles A. Goessmann, Ph. D.

No work in horticulture is undertaken.

Hatch Experiment Station of the Massachusetts Agricultural College.*Department of the Massachusetts Agricultural College.*

Location, Amherst.

Director, Henry H. Goodell, M. A.

Horticulturist, Samuel T. Maynard, B. Sc.

VEGETABLES.

Tests will be made with tomatoes, lettuce, sweet corn, and onions.

Varietal improvement will not be attempted at present.

Synonymy will be studied.

FRUITS.

New varieties of large and small fruits will be tested.

Varietal improvement will not be specially undertaken, but the effect of cross-fertilization upon quality of fruit will be studied.

Synonymy will be studied.

Specialties most desired are small fruits.

For co operative work, the Station is prepared to distribute strawberries, raspberries, and blackberries.

The more permanent work will be on methods of cultivating and pruning, and the study of fungoid diseases as affected by cultivation and fertilization.

The more temporary work will be on the distinguishing and discarding of varieties of little value.

MICHIGAN.

Experiment Station of Michigan Agricultural College.*Department of Michigan Agricultural College.*

Location, Agricultural College.

Director, Oscar Clute, M. S.

Horticulturist, L. R. Taft, M. S.

VEGETABLES.

Particular attention will be given to tests with tomatoes, potatoes, and onions; novelties will also be tested. The intention is to make the tests of a practical nature.

Varietal improvement will be undertaken by means of selection and cross-fertilization.

Synonymy will be studied, particularly in the classes of vegetables above mentioned.

Specialties desired are all promising horticultural novelties, but especially all that fall within the classes above mentioned.

The Station is prepared to distribute potatoes, tomatoes, and a general line of vegetables.

FRUITS.

All promising new varieties will be tested, particularly strawberries, raspberries, and hardy varieties of the larger fruits.

Varietal improvement by means of cross-fertilization and selection will be attempted.

Synonymy will be studied in the classes of fruits above mentioned.

Specialties most desired are all promising new varieties of strawberries, raspberries, and the larger fruits.

For co-operative work, the Station is prepared to distribute many varieties of the above-mentioned fruits.

The more permanent work will be in the line of testing and developing hardy varieties.

The more temporary work will be with novelties.

MINNESOTA.

Agricultural Experiment Station of the University of Minnesota.

Department of the University of Minnesota.

Location, Saint Anthony Park. Director, N. W. McLain, LL. B.

Horticulturist, Samuel B. Green, B. S.

VEGETABLES.

Only those varieties thought to be specially valuable will be tested.

- Methods of cultivation will be an important part of the work.

Varietal improvement by means of selection will be undertaken.

Synonymy will be studied to a small extent.

Promising new varieties are desired without special reference to any class.

The Station is prepared to distribute about one hundred and fifty varieties of potatoes.

FRUITS.

Varieties of native seedling and Russian apples will be tested with a view to determining their quality and hardiness.

Tests of promising varieties of pears, plums, Russian cherries, grapes, strawberries, raspberries, blackberries, dewberries, sand cherries, pine berries, and other native fruits will be also made.

The development and improvement of native fruits will receive particular attention.

Synonymy will be studied.

Hardy varieties of apples, pears, cherries, plums, and small fruits are desired.

The Station is prepared to distribute some varieties of Russian pears, grapes, and small fruits.

The more permanent work will be on the improvement of native fruits, the introduction and improvement of apples, pears and cherries, and improvement in the methods of cultivating and protecting fruits.

MISSISSIPPI.

Mississippi Agricultural Experiment Station.

Department of Mississippi State Agricultural College.

Location, Agricultural College.

Director, S. M. Tracy, M. S.

Horticulturist, B. W. Saffold, B. S.

VEGETABLES.

The work will be confined to the testing of varieties and strains of potatoes and tomatoes, which are the principal market-garden vegetables of this section.

Varietal improvement will not be attempted.

Synonymy will not receive particular attention.

Specialties desired are tomatoes and potatoes.

The Station is not prepared at present to distribute vegetables.

FRUITS.

The work will principally be on peaches, grapes, and strawberries.

Varietal improvement will not be attempted.

Synonymy will not receive particular attention.

Specialties desired are grapes and strawberries.

The Station is not prepared at present to distribute fruits.

The more permanent work will be on type improvement.

The more temporary work will be with fertilizers.

MISSOURI.

Missouri Agricultural Experiment Station.

Department of Missouri Agricultural College.

Location, Columbia.

Director, E. D. Porter, Ph. D.

Horticulturist and Entomologist, J. W. Clark, B. S.

The immediate work of the Station in horticulture will be the testing of varieties of vegetables and large and small fruits, the production of new varieties by cross-fertilization, and experiments to ascertain the effect of fertilizers upon fruits.

NEBRASKA.

Agricultural Experiment Station of Nebraska.

Department of University of Nebraska.

Location, Lincoln.

Director, Lewis E. Hicks, Ph. D.

No work in horticulture has yet been undertaken by this Station.

NEVADA.

Nevada State Agricultural Station.*Department of Nevada State University.*

Location, Reno.

Director, _____.

Agriculturist and Horticulturist, W. S. Devol, B. Ag.

VEGETABLES.

Tests will be made with a large number of different classes.

Varietal improvement will be attempted.

Synonymy will not be studied at present.

Specialities desired are peas, beans, corn, cucumbers, melons, radishes, lettuce, beets, and cabbages.

The Station is not prepared to distribute vegetables this year.

FRUITS.

Tests of varieties will be made with apples, cherries, plums, apricots, peaches, nectarines, prunes, currants, gooseberries, raspberries, blackberries, strawberries, and grapes.

The varietal improvement of strawberries only will be attempted at present.

Synonymy will be studied.

Specialties desired are apples, grapes, currants, and strawberries.

The Station is not prepared to distribute fruits at present.

NEW HAMPSHIRE.

New Hampshire Agricultural Experiment Station.*Department of New Hampshire College of Agriculture and the Mechanic Arts.*

Location, Hanover.

Director, G. H. Whitchee, B. S.

No work in horticulture has yet been undertaken by the Station.

NEW JERSEY.

New Jersey Agricultural College Experiment Station.*Department of Rutgers College.*

Location, New Brunswick.

Director, _____.

Botanist and Horticulturist, Byron D. Halsted, Sc. D.

Dr. Halsted had been at his new post but a short time when the committee's circular was received, and did not feel able to fully outline his work, but indicated that he had in mind the improvement of varieties by cross-fertilization and selection, the testing of seeds as to purity, and the study of weeds.

The more permanent work will be in vegetable pathology and the study of the influence of conditions upon fruitfulness of plants,

NEW YORK.

New York Agricultural Experiment Station.

Location, Geneva.

Director, Peter Collier, Ph. D.

Acting Horticulturist, C. E. Hunn.

VEGETABLES.

This Station will continue to test new varieties of vegetables as hitherto.

FRUITS.

A large amount of work is being done in testing varieties of small fruits as to commercial value and adaptability to the climate of the State.

Work in cross-fertilization is in progress.

Cornell University Agricultural Experiment Station.*Department of Cornell University.*

Location, Ithaca.

Director, Isaac P. Roberts, M. Agr.

Horticulturist, L. H. Bailey, M. S.

VEGETABLES.

The principal work will be with cucurbits, tomatoes, and egg plants. Testing of varieties will be but a small part of the work.

Varietal improvement will be an important part of the work.

Synonymy will be studied.

Cucurbitaceæ, tomatoes and their allies, and also novelties of an unusual character are desired.

For co-operative work, the Station is prepared to distribute most of the current varieties offered by seedsmen, and many kinds of cucurbits, tomatoes, and European vegetables.

FRUITS.

Tests will be made with all the small fruits.

Varietal improvement will be undertaken.

Synonymy will not be studied.

All new varieties of small fruits and especially wild species of promise are desired.

The Station is prepared to distribute many kinds of currants, gooseberries, raspberries and blackberries.

The more permanent line of work will be the origination of new varieties and the improvement of varieties by cultivation.

The more temporary work will be studies in seed testing, forcing plants, field culture, and testing a few of the most promising novelties.

NORTH CAROLINA.

North Carolina Agricultural Experiment Station.

Location, Raleigh.

Director, H. B. Battle, Ph. D.

Botanist, Gerald McCarthy, B. Sc.

VEGETABLES.

Tests of such varieties as are of most interest to farmers for home uses will be undertaken. Some attention will be given to the improvement of vegetables.

Synonymy will not be studied.

Specialties most desired are cabbages and potatoes.

The Station is not prepared to distribute any vegetables or fruits.

FRUITS.

Tests of varieties will be made with strawberries, raspberries, grapes, peaches, plums, and pears.

Neither varietal improvement nor synonymy will be studied.

Specialties most desired are the fruits above named.

The more permanent work will be laboratory work and in vegetable pathology.

The more temporary work will be on plat tests.

OHIO.

Ohio Agricultural Experiment Station.

Location, Columbus.

Director, Charles E. Thorne.

Horticulturist, W. J. Green.

VEGETABLES.

Varieties of the following classes will be tested: Beets, cabbages, cauliflowers, celery, sweet corn, lettuce, onions, peas, potatoes, radishes, squashes, and tomatoes. Special attention will be given to celery, lettuce, and potatoes. Other vegetables will be grown to a limited extent.

Varietal improvement will be particularly undertaken with onions, tomatoes, cabbages, and cauliflowers.

Under synonymy particular attention will be paid to identifying old sorts put out under new names.

Specialties desired are improved strains or high-bred varieties of beets, cabbages, cauliflowers, lettuce, onions, or peas.

Seeds of old, well-established varieties that have been grown for several years in one locality are especially desired.

The Station is not prepared at present to distribute any vegetables.

FRUITS.

Varieties of the following classes will be tested : Strawberries, raspberries, blackberries, currants, gooseberries, grapes, plums, and cherries. Apples and pears will be top-grafted.

Crossing and hybridizing will be attempted.

Under synonymy the aim will be to identify old varieties sent out under new names.

Specialties desired are new varieties of strawberries, raspberries, blackberries, currants, gooseberries, and grapes.

The Station is prepared to distribute a few varieties of strawberries and raspberries.

The more permanent work will be in crossing, hybridizing, and improving strains by selection.

The more temporary work will be for the most part in testing varieties.

OREGON.

Oregon Experiment Station.

Department of Oregon State Agricultural College.

Location, Corvallis.

Director, E. Grimm, B. Sc.

Botanist and Horticulturist, E. R. Lake, M. S.

VEGETABLES.

The lines of work are not yet determined.

FRUITS.

Tests will be made with apples, pears, plums, cherries, peaches, apricots, nectarines, quinces, grapes, currants, raspberries, gooseberries, and strawberries.

Improvement of varieties will be undertaken.

Synonymy will be studied.

Varieties of apples, pears, plums, and small fruits are desired.

The more permanent work will be on the improvement of fruits.

The more temporary work will be the testing of varieties.

PENNSYLVANIA.

The Pennsylvania State College Agricultural Experiment Station.

Department of the Pennsylvania State College.

Location, State College, Centre County. Director, H. P. Armsby, Ph. D.

Horticulturist, Geo. C. Butz, M. S.

VEGETABLES.

General tests with vegetables will be made, especially with tomatoes, cabbages, beans, peas, radishes, lettuce, corn, and beets.

Varietal improvement will be undertaken.

Synonymy will not be studied.

Specialties desired are all the novelties, and especially new varieties of those classes above named.

The Station is prepared to distribute vegetable seeds grown at the Station.

FRUITS.

Tests will be made with apples, pears, plums, quinces, grapes, strawberries, raspberries, gooseberries, and currants.

Neither varietal improvement nor synonymy will be undertaken.

Specialties desired are all the fruits named above.

The Station is prepared to distribute cions of the large fruits named in Station Report for 1888.

Work will be undertaken in testing relative value of seeds grown on rich and poor soil, methods of cultivation, use of fertilizers on vegetables and small fruits, and a study of the deterioration of vegetables.

RHODE ISLAND.

Rhode Island State Agricultural Experiment Station.

Department of Rhode Island State Agricultural School.

Location, Kingston.

Director, Chas. O. Flagg, B. S.

Horticulturist, L. F. Kinney, B. S.

VEGETABLES.

All of the common vegetables will be tested.

Synonymy will be studied.

FRUITS.

The aim will be to test all the standard and newer fruits thought worthy of trial.

Synonymy will be studied.

Specialties desired are strawberries and grapes.

The more permanent work will be the investigation of the seed and nursery business, and the value of chemical manures for special crops.

The more temporary work will be testing varieties of fruits and vegetables.

SOUTH CAROLINA.

South Carolina Agricultural Experiment Station.

Department of the University of South Carolina.

Location, Columbia.

Director, John M. McBryde, Ph. D., LL. D.

Work in horticulture will not be undertaken to any extent at present.

TENNESSEE.

Tennessee Agricultural Experiment Station.

Department of the University of Tennessee.

Location, Knoxville.

Director, Charles W. Dabney, jr., Ph. D.

Botanist and Horticulturist, F. L. Scribner, B. S.

VEGETABLES.

Work has been undertaken with Irish and sweet potatoes:

FRUITS.

An orchard of two hundred and sixty varieties of apples, pears, peaches, plums, cherries, apricots, nectarines, quinces, blackberries, raspberries, and figs has been planted. About twenty-five varieties of strawberries are being studied chemically and otherwise.

TEXAS.

Texas Agricultural Experiment Station.

Department of Agricultural and Mechanical College of Texas.

Location, College Station.

Director, F. A. Gulley, M. Sc.

Horticulturist, T. L. Brunk, B. Sc.

VEGETABLES.

Some work with vegetables has been undertaken.

FRUITS.

Tests will be made with all kinds of fruits as to their value in the climate of Texas; special work with fertilizers on certain fruits will be undertaken; arrangements are completed for special work with grapes in cross-fertilization, etc., and the native fruits will be carefully studied.

VERMONT.

Vermont State Agricultural Experiment Station.

Department of University of Vermont.

Location, Burlington.

Director, W. W. Cooke, M. A.

Horticulturist, C. W. Minott, B. Sc.

VEGETABLES.

The principal tests will be with corn, beans and peas; but novelties offered by seedsmen will also be tested.

Special work in the improvement of vegetables will be undertaken.

Synonymy will be given some attention.

New varieties and strains of above-named vegetables are desired.

The Station is prepared to distribute samples of the varieties mentioned in the Report for 1888.

FRUITS.

Tests will be made with apples, pears, plums, cherries, quinces, currants, gooseberries, raspberries, blackberries, and strawberries.

The improvement of certain fruits will be attempted.

Synonymy will be studied.

All the hardy fruits and those of recent origin or recent introduction are desired.

The Station is prepared to distribute plants or cuttings of native plums and apples and possibly of *Amelanchier*.

The more permanent work will be with apples and plums, as indicated above, and in the development of Russian pears and such wild fruits as are of promise, as well as in testing the hypothesis of improvement by selection of the most healthy stock, whether propagated by seed or buds.

The more temporary work will be with new varieties of small fruits and novelties generally.

VIRGINIA.

Virginia Agricultural Experiment Station.

Department of Virginia Agricultural and Mechanical College.

Location, Blacksburg.

Director, William Ballard Preston.

Botanist and Entomologist, William B. Alwood.

VEGETABLES.

Tests will be made with all the ordinary vegetables grown by farmers and truckers, and will include special methods of culture and fertilizer tests.

Varietal improvement will be undertaken to some extent with tomatoes and potatoes.

Synonymy will be studied only incidentally to test the statements of others.

All new varieties and novelties in vegetables are desired.

The Station is not prepared to distribute vegetables.

FRUITS.

Tests will be made with all the orchard and small fruits adapted to the climate of the State.

Special work on varietal improvement will be undertaken with grapes, and to some extent with strawberries, raspberries, blackberries, and the species of *Gaylussacia*.

Synonymy will not be studied.

All the promising new fruits, large and small, but especially grapes (new varieties, seedlings, wild species, etc.), are desired.

The Station is not prepared to distribute fruits at present.

The more permanent work will be with grapes, including the whole question of viticulture, and in the special treatment of plants as affecting the practical questions of horticulture.

The more temporary work will be with the current new varieties and novelties of fruits and vegetables.

WEST VIRGINIA.

West Virginia Experiment Station.

Department of West Virginia University.

Location, Morgantown.

Director, John A. Myers, A. M.

No work in horticulture has yet been undertaken.

WISCONSIN.

Agricultural Experiment Station of the University of Wisconsin.

Department of University of Wisconsin.

Location, Madison.

Director, W. A. Henry, B. Agr.

Horticulturist, E. S. Goff.

VEGETABLES.

Tests of the common classes of vegetables will be conducted to some extent.

Varietal improvement will be undertaken.

Synonymy will be studied.

Specialties desired are all the promising novelties.

The Station will perhaps be prepared before long to distribute some of the upright forms of tomatoes.

FRUITS.

All new varieties of large and small fruits that are promising for the Northwest, will be tested.

Varietal improvement of native plums and apples will be undertaken.

Synonymy will be studied.

Specialties most desired are varieties of hardy native plums; new, hardy, long-keeping apples; and any wild fruits that are of promise for Wisconsin.

The Station is not prepared to distribute fruits at present, but hopes to be able after a time to send out new seedlings of nearly all varieties listed in the Report for 1888.

The more permanent work will be testing fruits as to hardiness and quality.

